

REMARKS

Claims 1-9 are pending.

Applicants' Response to the Objection to the Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter.

Specifically, the objection asserts that: (1) there is [no] antecedent basis for the phrase "outside the porous material" recited in claim 1, and (2) there is no antecedent basis for a resin that consist of a cross-linked polyacrylic acid salt. This objection is related to the rejection of the claims under §112 discussed below. Applicants respectfully traverse the objection and rejection together as detailed below.

Applicants' Response to the Claim Rejections under 35 U.S.C. §112

Claims 1-9 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

The rejection maintains that the claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Specifically, as with the objection described above, the rejection asserts that there is no support in the disclosure for (1) a metal chelating agent outside of the porous material and (2) a resin that consists of a cross-linked polymer of anacrylic acid. Applicants respectfully traverse

both of these rejections, and thereby the above objection as well. There is sufficient written description support for both amendments.

Under U.S. law, as re-stated at M.P.E.P. §2163.II.A.3:

An adequate written description of the invention may be shown by any description of sufficient, relevant, identifying characteristics so long as a person skilled in the art would recognize that the inventor had possession of the claimed invention. See, e.g., *Purdue Pharma L.P. v. Faulding Inc.*, 230 F.3d 1320, 1323, 56 USPQ2d 1481, 1483 (Fed. Cir. 2000).

First, in regard to the term “outside” there is adequate written description within the specification so as to render this term inherent to the described invention. As set forth in M.P.E.P. §2163.07(a):

By disclosing in a patent application a device that inherently performs a function or has a property, operates according to a theory or has an advantage, a patent application necessarily discloses that function, theory or advantage, even though it says nothing explicit concerning it.

The rejection maintains that since the word “outside” does not appear in the disclosure the given interpretation of the term is “physically outside in the end product.” As stated at page 3 of the Office Action:

While the chelating agent may be a separate component in the mixture forming the absorbent resin compound, it is not outside of the porous antibacterial agent and in fact the disclosure repeatedly states that the metal chelating agent is present to form a complex with the antibacterial metal in the porous agent, both within the resin, so that the antibacterial metal does not lose its antibacterial property during

polymerization. Thus, it is not possible that the metal chelating agent be located outside the porous material if the claimed invention is to function as intended.

(Emphasis added).

First, claim 1 does not state that the metal chelating agent is outside of the antibacterial agent, resin or resin compound. Claim 1 only states that the metal chelating agent is outside of the porous material which is a component of the antibacterial agent. Specifically, the relevant portions of claim 1 read:

...an antibacterial agent having a porous material incorporating an antibacterial metal...wherein said metal chelating agent is outside of the porous material.

This disclosure is completely supported by the specification which states that antibacterial metal is eluted from an eluting-type antibacterial agent. Specifically, the relevant portions of page 2, line 26 to page 3, line 6 state:

...an eluting-type antibacterial agent which sustained-releases an antibacterial metal, ... The eluting-type antibacterial agent expresses its antibacterial property by inhibiting enzymatic activities of microorganisms with eluted antibacterial metals. However, in this type of antibacterial agent, when an organic material exists in a system, the organic material forms salts with the sustained-released antibacterial metal to greatly reduce the antibacterial property.

(Emphasis added).

Further, page 3, lines 24-28 states:

In the water-absorbing resin compound according to the present invention, since the antibacterial agent having a porous material incorporating an antibacterial metal and the metal chelating agent coexist, the eluted antibacterial metal can immediately form a complex with the metal chelating agent. Therefore, even when an organic material exists in the system, the eluted antibacterial metal does

not form salts with the organic material and, thereby, the water-absorbing resin compound can retain an antibacterial property of the antibacterial metal.

(Emphasis added).

The specification is further clear that the antibacterial metal is eluted from the porous material of the antibacterial agent. As set forth at page 4, lines 26-27, the antibacterial agent has a porous material incorporating an antibacterial metal. Page 5, lines 1-25 describe that the antibacterial agent is formed by incorporating the antibacterial metal into the porous material.

As such, there is clearly a description of sufficient, relevant, identifying characteristics so that one of skill in the art would readily identify that an antibacterial metal is eluted from inside a porous material and subsequently forms a complex with a metal chelating agent outside of the porous material.

Hence, the metal chelating agent is not located inside the porous material. If this were the case, than the metal chelating agent could not form a complex with eluted antibacterial metal, rather it would form such complexes inside the porous material with non-eluted antibacterial metal.

One of skill in the art would readily ascertain that the specification is referring to a resin wherein the metal chelating agents are located outside of the porous material. Hence, the use of the term “outside” to describe the position of the metal chelating agents in relation to the porous material is supported by the written description.

Second, the rejection also maintains that there is no support for the limiting of the water absorbing resin to only a cross-linked polymer of an acrylic acid salt. Specifically, the rejection asserts that the description of the resin in the specification includes certain examples of resins listed on page 4 of the specification and that this disclosure does not provide support for a resin that “consists” of cross-linked polymer of acrylic acid salt to the exclusion of other disclosed materials.

Specifically, page 4, lines 14-17 (directly below the listing referred to by the Examiner) specifically states that a cross-linked polymer of an acrylic acid salt is preferable. A specific commercial acrylic acid salt is stated at page 4, lines 22-25. This acrylic acid salt is described as being combined with ethylenediaminetetraacetic acid disodium salt to form the water-adsorbing resin of Example 1, per page 9, line 23 to page 10, line 2, of the water-absorbing resin compound. Hence, there is clearly support within the specification for a water-absorbing resin which consists of a cross-linked polymer of an acrylic acid salt.

Wherefore, applicants respectfully submit that there is sufficient support within the specification for the features of claim 1 as detailed above, and further respectfully request favourable reconsideration.

Applicants' Response to Claim Rejections under 35 U.S.C. §103

Claim 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gancet et al ('772) in view of Hosokawa (EP 257,951 A2).

In response thereto, applicants respectfully submit that the present invention is not obvious in light of the combined references for at least the reason that the combination does not provide any viable reason whereby a skilled artisan could derive the claimed invention.

In regard to the current rejection, the Action cites to Gancet as disclosing a water absorbing resin compound comprising a water absorbing resin that consist of a crosslinked polyacrylic acid salt, citing col. 2, lines 4-9, and an antibacterial agent having a porous material incorporating an antibacterial metal in the form of a zeolite powder with silver metal ions incorporated therein and mixed with the resin powder. The rejection admits that Gancet does not disclose that the water absorbing resin powder comprises a metal chelating agent and cites to Hosokawa as disclosing this feature. Specifically, the Action states that a skilled artisan would have combined the two references to derive the claimed invention because the absorbing component of the resin of the references are substantially identical and Hosokawa discloses that the addition of the chelating agent to the absorbing resin improves water absorbing performance and aging stability of the absorbing polymer. Hence, the rejection concludes that it would have been obvious to improve the water absorbing performance and stability of the resin and resin compound.

Under U.S. patent law, as set forth in *Takeda v. Alphapharm* 492 F.3d 1350, 1356-1357; 83 USPQ2d 1169 (Fed. Cir. 2007):

While the *KSR* Court rejected a rigid application of the teaching, suggestion, or motivation ("TSM") test in an obviousness inquiry, the Court acknowledged the importance of identifying "a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does" in an obviousness determination. *KSR*, 127 S. Ct. at 1731.

Applicants respectfully submit that a skilled artisan would not combine Gancet with Hosokawa so as to derive the present invention by improving the water absorbing performance and stability of the resin and resin compound. In regards to the disclosures of the references, the present application refers to JP-A 2001-505237, which corresponds to US 6,277,772 (Gancet). See, page 2, line 18 to page 3, line 9 of the Specification. Gancet discloses a compound containing a water-absorbing resin and an antibacterial agent having an inorganic compound incorporating an antibacterial metal. However, in this type of antibacterial agent, when an organic material exists in a system, the organic material forms salts with the sustained-released antibacterial metal to greatly reduce the antibacterial property. Comparative Example 2 of the application represents the compound of Gancet. As understood from Tables 1 and 2, the compound of Comparative Example 2 showed poor results.

As described in the specification, the above problem seen in the antibacterial agent of Gancet is solved by locating a metal chelating agent outside of a porous material incorporating an antibacterial metal to immediately capture the antibacterial metal eluted from the porous

material. Accordingly, the eluted metal is prevented from loosing its antibacterial property due to complexation with an organic material existing in a system.

On the other hand, in the invention of Hosokawa the skilled artisan would readily ascertain chelating agent would be added in order to improve stability of the absorbent resin composition in the form of a swollen gel after the absorption of urine etc. and maintain the gel form for a long period of time by catching a slight amount of transition metals derived from the resin or urine etc. and preventing occurrence of undesirable reaction such as decomposition or disconnection of the resin caused by the radical species due to the presence of these metals. See, page 2, lines 55 to page 3, line 5.

There is no manner whereby a skilled artisan would derive combining Gancet with Hosokawa to derive the present invention since Hosokawa fails to disclose that the chelating agent is added in order to retain an antibacterial property of an antibacterial metal without forming a salt between the antibacterial metal and organic materials. Neither reference recognize the aspect of the current invention of adding the metal chelating agent to maintain an antibacterial property of an antibacterial metal after eluted from a porous material by immediately capturing it with a metal chelating agent located outside the porous material.

In other words a skilled artisan does not have a viable reason to combine the features of Gancet and Hosokawa so as to derive the present invention.

Wherefore, applicants respectfully submit that the present invention is not obvious in light of the combination of Gancet and Hosokawa.

Application No.: 10/552,152
Art Unit: 3761

Response under 37 CFR §1.116
Attorney Docket No.: 053170

In view of the above remarks, Applicants submit that the claims, as previously presented, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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